Cotton Variety Tests Conducted at Lawton, Oklahoma, in 1940

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MAY 12 1941
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Office of Cotton Improvement, Agronomy Department,
Oklahoma Agricultural Experiment Station
in cooperation with
United States Department of Agriculture

Assistance in the preparation of these materials was furnished by the personnel of Works Projects Administration Official Project No. 65-1-65-411.

OKLAHOMA AGRICULTURAL EXPERIMENT STATION
OKLAHOMA A. & M. COLLEGE
STILLWATER

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Experiment Station Circular C-93 April, 1941

The research work of the Oklahoma Cotton Improvement Program is conducted by the Office of Cotton Improvement, Agronomy Department, of the Oklahoma Agricultural Experiment Station, in cooperation with the Division of Cotton and Other Fiber Crops and Diseases, U. S. Department of Agriculture.

One of the lines of work in this cotton improvement program is the conducting of strain and variety tests. In these tests the various types of cotton are planted in such a way as to make possible the determination of (1) the best strains and varieties for a given section, (2) the characteristics of the cotton plant best adapted to the soil and climatic conditions of each section, and (3) the relationship or correlation of the various plant characteristics which make up a cotton plant.

Knowledge of the characteristics of the cotton plant best adapted to a given section and of the interrelationship of these characteristics is of great value to the cotton breeder whose objective is the development of the type of cotton most profitable for that section.

The test reported in this circular was conducted to find the varieties of cotton best adapted to southwestern Oklahoma. Special attention is therefore given to the relative suitability of the different varieties for picking and for pulling (snapping), and to the effect of early maturity upon yield. In analyzing the characteristics which affect value per acre, the value of the seed was taken into account.

COTTON VARIETY TEST CONDUCTED AT LAWTON, OKLAHOMA, IN 1940

The cotton variety test conducted near Lawton, in Comanche County, Oklahoma, in 1940, included fifty-five (55) varieties and strains. This test was conducted on the U. S. Dry Land Field Station in cooperation with Mr. W. M. Osborn, superintendent. The soil on which this test was planted is a tight natured, dark grayish brown, silty clay loam of medium fertility.

Due to the fact that arrangements for this test were made late in the season, it was necessary in most cases to use the original seed saved over from the 1938 and 1939 tests.

Each variety was planted in eight (8) series, and the location of each variety's plat was such that no variety occurred more than once in a series or more than once in a given row. The size of each plat was one row 70 feet long by 3-1/3 feet wide. The test was planted on May 17, and came up at once to a good stand. The crop was chopped June 18, and single plants were spaced 15 to 18 inches apart.

The crop produced by this test was picked twice, the first time on September 18, and the second on October 8. At picking time, careful field weights were taken for calculation of total acre production.

WEATHER CONDITIONS

The following table gives the mean or average monthly temperature and the total monthly rainfall for the months of October, 1939, to September, 1940, together with the long-time normal monthly temperature and total rainfall by months. These data were taken from the weather (observation) station of the U. S. Dry Land Field Station. This observation station is located approximately one mile northeast of the test.

Temperature and Rainfall Data

MONTH (1939)	TEMPERATURE Mean	TEMPERATURE Normal	RAINFALL Total	RAINFALL Normal
October	68.6	63.5	1.97	3.59
November	51.5	51.6	0.80	2.12
December	47.1	41.2	0.68	1.54
(1940)				
January	30.0	39.3	0.52	1.18
February	45.1	42.3	2.19	1.29
March	56.8	52.5	Trace	1.68
April	63.0	61.6	4.23	3.46
May	71.4	69.4	3.03	5.23
June	77.0	78.6	3.54	3.96
July	82.6	82.8	5.51	2.58
August	81.7	82.6	1.98	2.58
September	75.2	75.2	2.14	3.52

From this table, it will be noticed that the mean monthly temperature for April was 1.4 degrees above the normal, and May was 2.0 degrees above normal. During the growing months of June, July, and August, 1940, temperatures were about normal, the average monthly temperature being 80.4 degrees compared to a normal of 81.3 degrees.

The amount of rainfall received during the fall and winter "storage" months from October, 1939, to March, 1940, inclusive, was 6.14 inches, which is 5.26 inches below normal for that period. During the spring "planting" months of April and May, 7.26 inches of rainfall were received, which is 1.43 inches below normal. During the growing months of June, July, and August, 11.03 inches of rainfall were received, which is 1.91 inches above normal. The excess rainfall during the "growing" months was due to 5.51 inches received during July, whereas the normal for that month is 2.58 inches.

From these data and from the yield records, it may be concluded that the year 1940 was favorable for the production of cotton in the Comanche County area.

RESULTS

The detailed results calculated from experimental data collected on the 1940 variety test are tabulated in Tables 1, 2, and 3, on pages 13 to 18.

Table 4 on pages 19 and 20 gives a series of averages which show the attributes that are associated with high lint yield from the standpoint of the varieties, soil, and weather conditions of this test. In these tables, the attributes of the 14 high-yielding varieties are compared with the remaining 41 and also with the entire 55 varieties grown in the test.

Acre yield of lint (Table 1, column 1, page 13): The following families or lines of breeding are represented in the 14 high yielding varieties: Acala 5, Deltapine, Stoneville, Lone Star, Triumph, Rowden, and Hi Bred. It is noteworthy that none of the Acala 8 strains appear in the high 14, even though three of the 14 are of the Acala 5 strain.

Acre yield of seed (Table 1, column 2, page 13): The value and economic importance of cotton seed is frequently underrated. F. B. Morrison's Feeds and Feeding has this to say concerning cotton seed and cotton seed products:

"Importance of the cotton crop.--Cotton (Gossypium hirsutum) ranks next to corn in importance and value in the United States, and is by far the most important southern crop.....

"The cottonseed meal and cake which are secured in the manufacture of oil from cottonseed rank next in importance to the wheat by-products in value and importance among all the by-product concentrates used for stock feeding in this country. Indeed, the tonnage of cottonseed meal and cake has exceeded the total tonnage of all other oil meals and cakes combined, plus the tonnages of the corn-starch by-products, the oat by-products, the brewing and distilling by-products, and the meat and fish by-products. In addition, cottonseed hulls are one of the most important roughages for stock in the South.

"From 1924-25 to 1932-33 there were produced in the United States an average of 2,314,000 tons of cottonseed meal and cake, and 1,437,000 tons of cottonseed hulls. From each ton of cottonseed there are secured approximately the following: Cottonseed cake or meal, 915 lbs.; crude oil, 299 lbs.; hulls, 579 lbs.; and linters, or short fiber, 69 lbs.; with a loss of 138 lbs.

"In spite of the high value of cottonseed meal for stock feeding, 8 to 9 percent of that produced is often used for fertilizer. This is on account of the high content of both nitrogen and phosphorus in the meal.

"In the United States cottonseed meal or cake is used more extensively for beef cattle than any of the other protein supplements. This is due to the good results secured with this high-protein supplement and also to the fact that in this country a much larger supply is available than of linseed meal or soybean oil meal.

"The popularity of these cottonseed by-products is also due to the fact that they are well liked by cattle, and that they are so rich in protein that only relatively small amounts are needed to balance rations low in this

nutrient. In addition, cottonseed meal and cake are unusually high in phosphorus. They therefore serve as phosphorus supplements, as well as protein supplements."

The average acre production of seed of the 55 varieties grown in this test was 516 pounds. The amount of protein produced by 516 pounds of cotton seed is approximately the same as that produced by 22 bushels of corn or 14 bushels of wheat. The conversion of cotton seed into its various by-products requires large investments of money and labor and is of real economic importance to the business of the nation.

The average acre yield of seed of the 14 high lint-yielding varieties was 106 pounds more than that of the remaining 41 varieties.

Acre yield of seed cotton (Table 1, column 3, page 13): As considered in this circular, seed cotton is the combined weight of lint and seed. In many sections of the South, cotton is marketed "in the seed", and for that reason the acre yield of seed cotton is included in this report.

The average acre yield of seed cotton of the 14 high lint-yielding varieties was 160 pounds more than that of the remaining 41 varieties.

Staple length (Table 1, column 4, page 13): The staple length of cotton is very important from the standpoint of market value of the fiber crop. Although market differentials for the value of the various staple lengths vary from time to time, under ordinary market conditions the longer staple lengths are of greater value. The producer's primary interest is in "dollars per acre" rather than "price per pound", and in choosing a variety he must determine the staple length best adapted to the soil and climatic conditions of his section. A high-yielding medium or short staple variety may easily produce more acre income than a longer staple, lower producing variety.

Considering the varieties included in this test, the higher producing 14 varieties had an average staple length of slightly over 15/16 inch (30.1/32nds) ranging from 13/16 to one inch. The remaining 41 varieties had an average staple length of slightly over 31/32nds (31.2/32nds) and 15 of the 41 had a staple length of more than an inch.

Staple length was determined by laboratory examination and by two expert cotton classers actively engaged in the classification of cotton in the markets.

Gross value per acre (Table 1, columns 5, 6, and 7, page 13); In calculating the value of lint per acre, the 1940 loan value of the Commodity Credit Corporation for the various staple lengths of Middling cotton is used as a basis.

Staple Price Differentials

13/16	--	8.40
7/8	--	9.25
29/32	--	9.37
15/16	--	9.50
31/32	--	9.58
1	--	9.66
1-1/32	--	9.75
1-1/16	--	10.00

Seed value is based on a price of $23 per ton.

The higher-producing 14 varieties included in this test returned $4.68 more per acre for lint than the remaining 41 lower-producing varieties. For seed, the corresponding difference was $1.21 and for both seed and lint, $5.90 per acre.

Gross value per acre less ginning and harvesting (Table 1, columns 8 and 9, page 13): The harvesting of cotton is ordinarily accomplished by one of two methods, that is, picking or pulling (snapping). Within recent years the practice of pulling cotton has increased in the State, particularly in the southwestern portion.

The harvesting of cotton by pulling is for the purpose of transferring a part of the harvesting operation from field hand labor to gin mechanical labor. In picking cotton, the seed cotton is removed from the bur in the field by hand, while the same operation for pulled cotton is performed in the gin by machinery.

The many mechanical operations to which pulled cotton is subjected have a tendency to lower the grade through "over machining". This effect is less pronounced in short, hard-bodied types of cotton and more serious in

long-fibered, silky cotton. In this study, both picked and pulled cotton are, through necessity, considered as of equal grade (Middling), which doubtless has the effect of making the "gross value per acre, less pulling and ginning" too high on at least some of the longer-fibered varieties.

The cost of harvesting and ginning cotton is fairly constant. For the 1940 crop, picking generally cost 75 cents per hundred pounds of seed cotton, and pulling cost 50 cents per hundred pounds of bur cotton. Ginning costs were set by the Oklahoma Corporation Commission at 25 cents for picked and 27½ cents for pulled cotton. In this circular, therefore, the cost of picking and ginning was figured at $1 per hundred pounds of seed cotton, and pulling and ginning at 77½ cents per hundred pounds of bur cotton.

Considering all 55 varieties included in this test, the cost of pulling and ginning was 25.8% of the value of seed and lint sold, and for picking and ginning the cost was 24.2%.

Boll size (Table 2, Column 1, page 15): At the time of the first harvesting of this test, 25 bolls were pulled from 25 consecutive plants on four series; that is, a total of 100 bolls was pulled from each variety. These bolls were taken to the laboratory and picked, and the cotton was weighed to secure boll size data.

Boll size is reported in three ways: average weight (in grams) per boll (Table 2, column 1); the number of bolls required to make a pound of seed cotton (Column 2); and the number of bolls required to make a bale of lint (Column 3).

It may be noted from Table No. 2 that the average weight of bolls ranges from 4.36 to 7.26 grams each for the different varieties, and the number of bolls required to produce a bale from 79,759 to 132,107. Other factors being equal, the pickers would doubtless prefer the cotton that required 52,348 less "grabs" per bale. From Table No. 4, it can be seen that the bolls of the 14 high-yielding varieties are 10.4% smaller than those of the 41 remaining varieties and required 12,637 more bolls to produce a bale of lint.

Lint % (Table 2, Columns 4 and 5, page 15): The 100 bolls pulled from each variety (as described under the "boll size" paragraph on page 6) were removed from the plant with the pedicel or boll stem attached. In the laboratory, the bracts or leaves at the base of the boll were removed and the bur containing the seed cotton was weighed. After thus securing the weight of the seed cotton plus the bur, the seed cotton was picked, ginned, and weighed. This procedure made possible the calculation of lint percent based on picked and pulled cotton. In studying the percentage of lint from pulled cotton for the different varieties, it should be remembered that the pulled material was very clean and did not contain any foreign material such as bracts, limbs, or green bolls, which are often present in ordinary field pulled cotton. Lint percentages based on field material and commercial ginning would doubtless run less than those reported herein due to rough pulling.

A study of lint percentage averages in Table 4 shows that there is little if any difference between the high and low producing groups of varieties in either pulled or picked cotton. There is, however, a great difference between varieties; percentage of lint varies from 23.9% to 31.5% for pulled cotton and from 32.1% to 40.3% for picked cotton (Table 2, columns 4 and 5).

Percent burs, pulled cotton (Table 2, column 6, page 15):

Pounds of burs per bale (Table 2, column 7, page 15):

The amount of burs in a load of pulled cotton is important because these burs constitute waste material which the farmer must pay to have harvested and ginned (77½ cents per hundred in this study). A study of columns 6 and 7 in Table 2 shows that for the varieties included in this test the percentage of burs ranges from 21.9% to 30.3% and the weight of burs per bale ranges from 333 to 609 pounds. The average percentage of burs for all varieties is 25.7%, and the average weight is 469 pounds. A study of Table 4 shows that the higher-producing group of varieties contains slightly less burs than the lower-producing group. This difference is due largely to the average of 22.2% burs for Caddo, Stoneville 4-B and Hi-Bred in the high-producing group,

and the average of 27.6% burs for the Acala 8 strains in the low-producing group.

Cost of harvesting and ginning a bale when pulled and when picked (Table 2, columns 8 and 9, page 15): A study of columns 8 and 9 of Table 2 shows that the cost of harvesting a bale of cotton varies greatly for the different varieties. This cost is reduced as the lint percent increases, due to the fact that less seed- or bur-cotton is needed to produce a bale. As an illustration, Hi-Bred cotton with a lint turnout of 40.3% requires only 1191 pounds of seed cotton to produce a bale whereas Sunshine 74-2 with a 32.1% turnout requires 1495 pounds of seed cotton per bale. This is a difference of 304 pounds of seed cotton per bale between the two varieties, which at one dollar per hundred (75 cents picking and 25 cents ginning) makes the picking and ginning of a bale of Hi-Bred $3.05 less than Sunshine 74-2. (See discussion on value of seed per bale, page 12)

The average cost of picking and ginning a bale for the 55 varieties is $13.55, and for pulling and ginning, $14.14. There is little difference between the 14 high producers and the 41 low producers in respect to cost of picking or pulling and ginning.

Return for $1 spent on harvesting and ginning when pulled and when picked (Table 2, columns 10 and 11, page 15): The value of seed and lint (return) for each dollar spent for harvesting and ginning is secured by dividing the combined market value of seed and lint (Table 3, column 11, page 17) by the cost of harvesting and ginning (Table 2, columns 8 and 9, page 15). By comparing the returns as listed in columns 10 and 11 in Table 2, it is seen that, with the exception of three varieties, all give a slightly greater return for one dollar invested in picking and ginning than for a like investment in pulling and ginning. These three varieties are Caddo and Hi-Bred, where the picking and ginning returns are two and four cents greater for pulling and ginning, and Stoneville 4-B, where the returns are equal. Considering all 55 varieties, the return for one dollar invested in pulling and ginning is $3.97

and in picking and ginning, $4.13.

Ratio of returns: picking divided by pulling (Table 2, column 12, page 15): Using the figure 1.053 as the ratio for Acala 892 in column 12 as an illustration, all figures in this column may be interpreted in the following way- "If one dollar is invested in picking and ginning Acala 892, it will require an investment of one dollar, five and 3/10 cents to get the same return if the crop is pulled and ginned".

The average ratio for the 14 leading varieties is 1.029 as compared to 1.048 for the remaining 41 varieties. This difference is due largely to such varieties as Deltapine A, Caddo, Stoneville 4-B, Oklahoma Triumph 8, Rowden 5056 and Hi-Bred in the high acre lint yielding group with an average ratio of 1.008 and ten Acala 8 strains in the low producing group with an average ratio of 1.069.

It should be recalled that in the data herein presented on comparative value of pulled and picked cotton no account has been taken of the possible lowering of grade as the result of "over-machining" the pulled cotton.

Maturity, Percent of Crop Harvested at First Picking (Table 3, column 1, page 17): Early maturity is considered of importance to the making of a cotton crop in southwestern Oklahoma even though this section does not have the boll weevil.

One method of measuring and expressing comparative earliness is in terms of that portion of the crop harvested at the first picking.

Considering all 55 varieties included in this test, the percentage of crop harvested at the first picking ranged from 33.3% to 72.9% with an average of 52.4%. The 14 higher producing varieties ranged from 48.0% to 72.9% with an average of 61.5%, while the 41 remaining varieties ranged from 33.3% to 67.9% with an average of 49.3%. From these data it is quite evident that earliness is associated with high yield when considering the 55 varieties grown in the 1940 test.

Maturity, Blooms on 100 Plants by 10-day Periods (Table 3, columns 2,

3, 4, 5, page 17): Another method of expressing comparative earliness is in terms of the total number of blooms appearing on the plants at different periods.

In the 1940 test, blooms first appeared in the latter part of July, and, starting July 31, a daily bloom count was made on 25 plants from each of four series, making a total of 100 plants for each variety. A few blooms had appeared prior to July 31, but they were not sufficient to be considered of any great importance.

From a study of columns 2, 3, and 4 in Table No. 3 and the averages in Table No. 4, it is readily seen that high acre yield is closely associated with a heavy early bloom. Comparing the 14 higher producing varieties with the 41 remaining lower producing varieties for the first 10-day period, the high producers had an average of 1154 blooms and the low producers had 877. For the second period, the total number of blooms for high and low producing groups was 716 and 635 respectively, and for the third period the totals were 94 and 127, also respectively. Expressed another way, for the first period the low-producing group of varieties was 75.9% of the high group, for the second period the percentage had raised to 88.7% and for the third period to 135.1%.

The following table gives the contrast between four strains of Acala 5 and ten strains of Acala 8 as to blooming:

	Acala 5	Acala 8
Total Number Blooms, 1st Period	1165	835
" " " , 2nd Period	756	707
" " " , 3rd Period	82	151
Percent Blooms, 1st Period	59%	49%
" " , 2nd Period	37%	42%
" " , 3rd Period	4%	9%
Acre Yield Lint (in pounds)	324	252

These data indicate that the Acala 5 strains bloom very heavily in the early season and taper off rapidly toward the end of the season. Acala 8 is more nearly a uniform bloomer throughout the three periods, being 28.3% below

Acala 5 in the first period, 6.5% below in the second, and 45.7% above Acala 5 in the third period. Acala 5 out-yielded Acala 8 by 72 pounds per acre, or 28.6%.

Considering the varieties included in this test and the weather and soil conditions under which it was grown, these data indicate that a high producing cotton sets its blooms very rapidly in the early season and sets very few blooms in late season. Lower producing varieties set fewer blooms early, but have a heavier bloom period late in the season.

Maturity, Percent Blooms by Periods (Table 3, columns 6, 7, and 8, page 17): The data on the total number of blooms as given in columns 2, 3, 4, and 5 in Table 3 are expressed in columns 6, 7 and 8 as percentages of the total. These data again indicate that, on the average, the high yielding varieties have a high proportion of their blooms early in the season and a light proportion in late season, while the lower producing varieties have a lower proportion of blooms in early season and a higher proportion in late season.

Value of Bale (Table 3, columns 9, 10, 11, page 17):

The value of a bale of cotton (seed and lint) depends on grade, the proportion of lint to seed (lint percent), the staple length, the staple price differential, and the price of seed. In this study the cotton from all varieties is taken as Middling grade. Staple differentials are given on page 5 and seed is figured at $23.00 per ton.

The value of lint for the different varieties ranges from $40.32 to $48.00, with an average of $45.87 (480 lb. bale). The value of the cotton produced by the 14 higher lint-producing varieties is $45.31 per bale, and the 41 remaining lower lint producers average $46.07. This difference is due to the longer staple lengths of the lower producers, which command a higher staple differential.

Value of seed per bale ranged from $8.18 to $11.67, with an average of $10.06. The average value of seed per bale was slightly more for the higher producing group of varieties because of the slightly lower lint percent.

Under the discussion of "Cost of Harvesting and Ginning a Bale" on page 8, it was shown that, as the result of Sunshine 74-2 having a low lint percent (32.1%), the cost of picking and ginning a bale of this variety was $3.04 more than Hi-Bred which had a lint percent of 40.3 (%). In Table 3, column 10, it is seen that the value of the seed from a bale of Sunshine 74-2 is $11.67 as compared to $8.18 for Hi-Bred. From this it can be seen that the extra seed produced by the Sunshine 74-2 (Sunshine 74-2, 642 lbs. and Hi-Bred, 470 lbs.) will make up the difference in cost of ginning between the two varieties.

Percent Seed Is of Total Value of Bale (Table 3, column 12, page 17):

Considering all varieties included in this test and the prices allowed for lint and seed, the value of seed ranged from 16.3% to 20.6% of the total value of lint and seed, with an average of 18%.

Table No. 1

COTTON VARIETY TEST, 1940

LAWTON, COMANCHE COUNTY, OKLAHOMA

LINT YIELD RANK	VARIETY NAME	ACRE YIELD			STAPLE LENGTH	VALUE PER ACRE				
						GROSS			LESS GINNING AND	
		Lint	Seed	Seed Cotton	(Inch)	Lint	Seed	Total	Pulling	Picking
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1	Acala 892	345	601	946	15/16	$32.78	$6.91	$39.69	$29.75	$30.23
2	Deltapine A (D&PL 11-A)	336	547	883	31/32	32.19	6.29	38.48	29.44	29.65
3	Nucala	332	605	937	31/32	31.81	6.96	38.77	28.91	29.40
4	Stoneville 5-A	327	611	938	1	31.59	7.03	38.62	28.87	29.24
5	Caddo	326	602	928	15/16	30.97	6.92	37.89	28.64	28.61
6	Stoneville 4-B	324	636	960	31/32	31.04	7.31	38.35	28.75	28.75
7	Oklahoma Triumph 8	322	649	971	15/16	30.59	7.46	38.05	28.15	28.34
8	Rowden 5056	321	607	928	29/32	30.08	6.98	37.06	27.60	27.78
9	Acala 1114	321	583	904	29/32	30.08	6.70	36.78	27.39	27.74
10	Deltapine 12 (D&PL 12)	321	527	848	1	31.01	6.06	37.07	28.15	28.59
11	Hi-Bred	318	470	788	13/16	26.71	5.41	32.12	24.29	24.24
12	Oklahoma Triumph 5	316	637	953	15/16	30.02	7.33	37.35	27.52	27.82
13	Washington (Delfos 719)	311	615	926	31/32	29.79	7.07	36.86	27.14	27.60
14	Sunshine 74-2	303	642	945	29/32	28.39	7.38	35.77	25.98	26.32
15	Northern Star 101	301	537	838	15/16	28.60	6.18	34.78	26.08	26.40
16	Watson	301	546	847	15/16	28.60	6.28	34.88	26.11	26.41
17	Roldo Rowden	300	616	916	15/16	28.50	7.08	35.58	25.97	26.42
18	Stoneville 2-B	300	593	893	1	28.98	6.82	35.80	26.72	26.87
19	Half & Half X Lone Star	300	447	747	13/16	25.20	5.14	30.34	22.59	22.87
20	Oklahoma Triumph 32	298	612	910	15/16	28.31	7.04	35.35	26.00	26.25
21	Gorham's Lone Star	297	520	817	15/16	28.22	5.98	34.20	25.54	26.03
22	Acala 5 (Jones)	296	592	888	29/32	27.74	6.81	34.55	25.30	25.67
23	Original Mebane Triumph	292	497	789	15/16	27.74	5.72	33.46	25.23	25.57
24	Rowden 2088	288	589	877	31/32	27.59	6.77	34.36	25.18	25.59
25	Ferguson's 406	288	475	763	29/32	26.99	5.46	32.45	24.70	24.82
26	New Boykin	285	469	754	29/32	26.70	5.39	32.09	24.36	24.55
27	Kasch	285	465	750	31/32	27.30	5.35	32.65	24.98	25.15
28	Paymaster	282	534	816	15/16	26.79	6.14	32.93	24.49	24.77
29	Acala 8 (Cal. Blue Lab.)	281	523	804	1-1/32	27.40	6.01	33.41	24.77	25.37
30	Bagley's Mebane	277	451	728	31/32	26.54	5.19	31.73	24.22	24.45

Table No. 1 Continued

COTTON VARIETY TEST AT LAWTON, COMANCHE COUNTY, OKLAHOMA--1940

LINT YIELD RANK	VARIETY NAME	ACRE YIELD			STAPLE LENGTH	VALUE PER ACRE				
						GROSS			LESS GINNING AND	
		Lint	Seed	Seed Cotton	(Inch)	Lint	Seed	Total	Pulling	Picking
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
31	Acala College Increase	276	485	761	1-1/16	$27.60	$5.58	$33.18	$25.05	$25.57
32	Roger's Acala 111	274	530	804	1-1/16	27.40	6.10	33.50	24.80	25.46
33	Sunshine 83-3	273	572	845	29/32	25.58	6.58	32.16	23.56	23.71
34	Mebane 804-50	273	531	804	15/16	25.94	6.11	32.05	23.69	24.01
35	Startex 619	270	523	793	15/16	25.65	6.01	31.66	23.51	23.73
36	Qualla A-2	270	478	748	1-1/32	26.33	5.50	31.83	23.90	24.35
37	Acala 8 (Cal. Yel. Label)	269	499	768	1-1/16	26.90	5.74	32.64	24.43	24.96
38	Acala 8 (X-28-5)	269	488	757	1-1/32	26.23	5.61	31.84	23.76	24.27
39	Bryant's Mebane	267	449	716	15/16	25.37	5.16	30.53	23.14	23.37
40	Wacona	267	444	711	31/32	25.58	5.11	30.69	23.45	23.58
41	Acala 8 (Shafter '34)	257	478	735	1-1/16	25.70	5.50	31.20	23.36	23.85
42	Western Mebane 140	257	472	729	29/32	24.08	5.43	29.51	22.08	22.22
43	Qualla X-2 (Regular)	257	424	681	15/16	24.42	4.88	29.30	22.31	22.49
44	Lyon's Acala 8	256	469	725	1-1/16	25.60	5.39	30.99	23.18	23.74
45	Acala 8 (Poso Found.)	255	477	732	1-1/32	24.86	5.49	30.35	22.48	23.03
46	Acala 8 (Okla.Yel.Lab.Inc.)	252	447	699	1-1/32	24.57	5.14	29.71	22.25	22.72
47	Harper's Family B L	251	481	732	1-1/16	25.10	5.53	30.63	22.49	23.31
48	Western Mebane 141	249	483	732	29/32	23.33	5.55	28.88	21.19	21.56
49	Acala 8-116	246	463	709	1-1/32	23.99	5.32	29.31	21.62	22.22
50	Lankart	246	389	635	15/16	23.37	4.47	27.84	21.31	21.49
51	Cliett's Superior	241	389	630	29/32	22.58	4.47	27.05	20.45	20.75
52	Acala 8 (Okla.B.Lab.Inc.)	239	427	666	1-1/32	23.30	4.91	28.21	21.11	21.55
53	Acala 8 (Okla.Found.Inc.)	234	437	671	1-1/32	22.82	5.03	27.85	20.65	21.14
54	Harper's Family U	211	358	569	31/32	20.21	4.12	24.33	18.45	18.64
55	Acala 8 (Shafter '34 Inc.)	209	398	607	1-1/16	20.90	4.58	25.48	18.98	19.41

Table No. 2

COTTON VARIETY TEST, 1940
LAWTON, COMANCHE COUNTY, OKLAHOMA

VARIETY NAME	BOLL SIZE: Av. Wt. Grams	No. Bolls Per: Lb. of Seed Cotton	No. Bolls Per: Bale	% LINT: Pulled Cotton	% LINT: Picked Cotton	% Burs Pulled Cotton	Lbs. Burs Per Bale	Cost of Harvesting and Ginning Bale When: Pulled	Cost of Harvesting and Ginning Bale When: Picked	Return for $1 Spent on Harvesting and Ginning When: Pulled	Return for $1 Spent on Harvesting and Ginning When: Picked	Ratio of Returns, Picking ÷ Pulling
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Acala 892	6.07	75	98,270	26.9	36.5	26.3	469	$13.83	$13.15	$3.99	$4.20	1.053
Deltapine A (D&PL 11-A)	4.63	98	123,424	28.8	38.1	24.4	407	12.92	12.60	4.25	4.36	1.026
Nucala	5.29	86	116,264	26.1	35.4	26.3	483	14.25	13.56	3.93	4.13	1.051
Stoneville 5-A	5.07	89	123,047	26.0	34.9	25.5	471	14.31	13.75	3.96	4.12	1.040
Caddo	6.14	74	101,025	27.3	35.1	22.2	390	13.62	13.68	4.10	4.08	.995
Stoneville 4-B	6.35	71	101,441	26.2	33.8	22.5	412	14.20	14.20	4.00	4.00	1.000
Oklahoma Triumph 8	5.06	90	129,605	25.2	33.2	24.1	459	14.76	14.46	3.84	3.92	1.021
Rowden 5056	6.05	75	104,010	26.3	34.6	24.0	438	14.14	13.87	3.92	3.99	1.018
Acala 1114	5.60	81	109,519	26.5	35.5	25.3	459	14.04	13.52	3.92	4.07	1.038
Deltapine 12 (D&PL 12)	4.36	104	132,107	27.9	37.8	26.2	450	13.33	12.70	4.16	4.37	1.050
Hi-Bred	5.54	82	97,519	31.5	40.3	21.9	333	11.81	11.91	4.11	4.07	.990
Oklahoma Triumph 5	5.20	87	126,114	24.9	33.2	25.0	482	14.94	14.46	3.80	3.92	1.032
Washington (Delfos 719)	5.71	79	113,483	24.8	33.6	26.1	506	15.00	14.29	3.79	3.98	1.050
Sunshine 74-2	6.02	75	112,669	24.0	32.1	25.3	505	15.50	14.95	3.65	3.79	1.038
Northern Star 101	6.05	75	100,243	26.8	35.9	25.3	454	13.88	13.37	4.00	4.15	1.038
Watson	6.99	65	87,740	26.6	35.5	25.1	453	13.99	13.52	3.98	4.11	1.033
Roldo Rowden	6.33	72	104,864	24.2	32.8	26.2	520	15.37	14.63	3.70	3.89	1.051
Stoneville 2-B	5.65	80	114,688	25.6	33.6	23.8	446	14.53	14.29	3.94	4.01	1.018
Half & Half X Lone Star	5.72	79	94,921	30.0	40.1	25.2	403	12.40	11.97	3.92	4.06	1.036
Oklahoma Triumph 32	5.06	90	131,585	24.7	32.7	24.4	475	15.06	14.68	3.78	3.88	1.026
Gorham's Lone Star	6.99	65	85,807	26.6	36.3	26.8	483	13.99	13.22	3.95	4.18	1.058
Acala 5 (Jones)	5.54	82	118,019	24.8	33.3	25.5	494	15.00	14.41	3.74	3.89	1.040
Original Mebane Triumph	6.65	68	88,487	27.5	37.0	25.7	448	13.52	12.97	4.07	4.24	1.042
Rowden 2088	5.58	81	118,959	24.3	32.8	25.9	512	15.31	14.63	3.74	3.92	1.048
Ferguson's 406	6.14	74	94,058	28.8	37.7	23.6	394	12.92	12.73	4.19	4.25	1.014
New Boykin	6.08	75	94,735	28.6	37.8	24.3	408	13.00	12.70	4.16	4.26	1.024
Kasch	7.05	64	81,270	28.8	38.0	24.2	404	12.92	12.63	4.26	4.35	1.021
Paymaster	5.78	78	108,868	25.9	34.6	25.1	466	14.36	13.87	3.90	4.04	1.036
Acala 8 (Cal. Blue Lab.)	6.03	75	103,457	25.2	34.9	27.8	530	14.76	13.75	3.87	4.15	1.072
Bagley's Mebane	6.94	65	82,342	28.6	38.1	24.9	418	13.00	12.60	4.23	4.36	1.031

Table No. 2 Continued

COTTON VARIETY TEST AT LAWTON, COMANCHE COUNTY, OKLAHOMA--1940

VARIETY NAME	BOLL SIZE: Av. Wt. Grams	BOLL SIZE: No. Bolls Per: Lb. of Seed Cotton	BOLL SIZE: No. Bolls Per: Bale	% LINT: Pulled Cotton	% LINT: Picked Cotton	% Burs Pulled Cotton	Lbs. Burs Per Bale	Cost of Harvesting and Ginning Bale When: Pulled	Cost of Harvesting and Ginning Bale When: Picked	Return for $1 Spent on Harvesting and Ginning When: Pulled	Return for $1 Spent on Harvesting and Ginning When: Picked	Ratio of Returns, Picking ÷ Pulling
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Acala College Increase	6.11	74	98,165	26.3	36.3	27.6	503	$14.14	$13.22	$4.08	$4.36	1.069
Roger's Acala 111	5.85	78	109,143	24.4	34.1	28.4	559	15.24	14.08	3.85	4.17	1.083
Sunshine 83-3	6.50	70	103,702	24.6	32.3	23.8	465	15.12	14.86	3.74	3.81	1.019
Mebane 804-50	5.17	88	123,861	25.3	34.0	25.6	485	14.70	14.12	3.83	3.99	1.042
Startex 619	5.42	84	117,802	25.7	34.1	24.6	460	14.48	14.08	3.89	4.00	1.028
Qualla A-2	6.13	74	98,387	26.4	36.1	26.8	488	14.09	13.30	4.02	4.25	1.057
Acala 8 (Cal.Yel. Label)	6.10	74	101,978	25.4	35.0	27.5	519	14.65	13.71	3.98	4.25	1.068
Acala 8 (N-28-5)	6.51	70	93,945	25.8	35.6	27.5	512	14.42	13.48	3.94	4.21	1.069
Bryant's Mebane	7.05	64	82,796	28.0	37.3	24.9	427	13.28	12.87	4.13	4.26	1.031
Wacona	7.26	62	79,759	28.6	37.6	23.9	401	13.00	12.77	4.24	4.32	1.019
Acala 8 (Shafter '34)	6.08	75	102,607	25.4	34.9	27.2	515	14.65	13.75	3.98	4.24	1.065
Western Mebane 140	5.55	82	111,447	26.8	35.2	23.8	427	13.88	13.64	3.97	4.04	1.018
Qualla X-2 (Regular)	6.86	66	83,963	28.5	37.8	24.6	414	13.05	12.70	4.19	4.31	1.029
Lyon's Acala 8	5.83	78	105,794	25.4	35.3	28.0	530	14.65	13.60	3.97	4.27	1.076
Acala 8 (Poso Found.)	6.20	73	100,910	25.1	34.8	27.9	533	14.82	13.79	3.86	4.14	1.073
Acala 8 (Okla.Yel.Lab.Inc.)	6.06	75	99,800	26.2	36.0	27.2	499	14.20	13.33	3.99	4.25	1.065
Harper's Family B L	5.57	81	113,961	23.9	34.3	30.3	609	15.56	13.99	3.76	4.19	1.114
Western Mebane 141	5.17	88	123,861	25.1	34.0	26.2	500	14.82	14.12	3.76	3.94	1.048
Acala 8-116	5.72	79	109,693	24.8	34.7	28.5	552	15.00	13.83	3.81	4.13	1.084
Lankart	7.02	65	79,935	29.2	38.8	24.8	407	12.74	12.37	4.26	4.39	1.031
Cliett's Superior	6.36	71	89,616	28.3	38.2	25.9	439	13.14	12.57	4.10	4.29	1.046
Acala 8 (Okla.B.Lab.Inc.)	6.09	74	99,585	26.1	35.9	27.3	502	14.25	13.37	3.98	4.24	1.065
Acala 8 (Okla.Found.Inc.)	6.09	74	102,733	25.2	34.8	27.6	526	14.76	13.79	3.87	4.14	1.070
Harper's Family U	7.07	64	83,231	27.8	37.0	24.9	430	13.38	12.97	4.14	4.27	1.031
Acala 8 (Shafter '34 Inc.)	5.90	77	107,274	24.9	34.4	27.6	533	14.94	13.95	3.92	4.19	1.069

Table No. 3

COTTON VARIETY TEST, 1940

LAWTON, COMANCHE COUNTY, OKLAHOMA

VARIETY NAME	MATURITY: % of Crop Harvested 1st Picking	MATURITY: BLOOMS ON 100 PLANTS BY 10-DAY PERIODS — Total No. 1st Period	Total No. 2nd Period	Total No. 3rd Period	Total No. Total	Percentage 1st Period	Percentage 2nd Period	Percentage 3rd Period	VALUE OF BALE: Lint	VALUE OF BALE: Seed	VALUE OF BALE: Total	% Seed is of Total Value
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Acala 892	64.5	1027	412	27	1466	70.1	28.1	1.8	$45.60	$9.60	$55.20	17.4
Deltapine A (D&PL 11-A)	51.8	1180	811	179	2170	54.4	37.4	8.2	45.98	8.97	54.95	16.3
Nucala	67.7	1182	921	131	2234	52.9	41.2	5.9	45.98	10.07	56.05	18.0
Stoneville 5-A	71.1	1313	675	76	2064	63.6	32.7	3.7	46.37	10.29	56.66	18.2
Caddo	59.6	1027	556	71	1654	62.1	33.6	4.3	45.60	10.21	55.81	18.3
Stoneville 4-B	70.5	1150	614	48	1812	63.5	33.9	2.6	45.98	10.81	56.79	19.0
Oklahoma Triumph 8	67.9	1229	893	115	2237	54.9	39.9	5.2	45.60	11.11	56.71	19.6
Rowden 5056	51.4	1052	577	75	1704	61.7	33.9	4.4	44.98	10.43	55.41	18.8
Acala 1114	57.8	1192	800	86	2078	57.4	38.5	4.1	44.98	10.03	55.01	18.2
Deltapine 12 (D&PL 12)	49.0	1145	767	98	2010	57.0	38.2	4.8	46.37	9.09	55.46	16.4
Hi-Bred	72.9	961	561	97	1619	59.4	34.6	6.0	40.32	8.18	48.50	16.9
Oklahoma Triumph 5	61.4	1307	839	112	2258	57.9	37.2	4.9	45.60	11.11	56.71	19.6
Washington (Delfos 719)	67.9	1253	651	47	1951	64.2	33.4	2.4	45.98	10.91	56.89	19.2
Sunshine 74-2	48.0	1142	947	157	2246	50.8	42.2	7.0	44.98	11.67	56.65	20.6
Northern Star 101	56.7	1328	522	72	1922	69.1	27.2	3.7	45.60	9.86	55.46	17.8
Watson	57.7	860	517	43	1420	60.6	36.4	3.0	45.60	10.03	55.63	18.0
Roldo Rowden	51.1	996	547	66	1609	61.9	34.0	4.1	45.60	11.30	56.90	19.9
Stoneville 2-B	54.6	1021	791	125	1937	52.7	40.8	6.5	46.37	10.91	57.28	19.0
Half & Half X Lone Star	55.8	777	566	159	1502	51.7	37.7	10.6	40.32	8.25	48.57	17.0
Oklahoma Triumph 32	64.0	1131	810	166	2107	53.7	38.4	7.9	45.60	11.36	56.96	19.9
Gorham's Lone Star	39.4	961	451	67	1479	65.0	30.5	4.5	45.60	9.68	55.28	17.5
Acala 5 (Jones)	67.9	1260	890	82	2232	56.5	39.9	3.6	44.98	11.05	56.03	19.7
Original Mebane Triumph	35.1	806	466	103	1375	58.6	33.9	7.5	45.60	9.40	55.00	17.1
Rowden 2088	51.2	1025	657	124	1806	56.8	36.4	6.9	45.98	11.30	57.28	19.7
Ferguson's 406	59.9	852	495	74	1421	60.0	34.8	5.2	44.98	9.12	54.10	16.9
New Boykin	57.4	796	567	92	1455	54.7	39.0	6.3	44.98	9.09	54.07	16.8
Kasch	43.1	764	403	78	1245	61.4	32.4	6.2	45.98	9.00	54.98	16.4
Paymaster	59.8	1074	797	147	2018	53.2	39.5	7.3	45.60	10.43	56.03	18.6
Acala 8 (Cal. Blue Lab.)	52.7	872	779	247	1898	46.0	41.0	13.0	46.80	10.29	57.09	18.0
Bagley's Mebane	45.4	770	449	112	1331	57.9	33.7	8.4	45.98	8.97	54.95	16.3

Table No. 3 Continued

COTTON VARIETY TEST AT LAWTON, COMANCHE COUNTY, OKLAHOMA--1940

VARIETY NAME	MATURITY: % of Crop Harvested 1st Picking	MATURITY: BLOOMS ON 100 PLANTS BY 10-DAY PERIODS: Total No. 1st Period	Total No. 2nd Period	Total No. 3rd Period	Total No. Total	Percentage 1st Period	Percentage 2nd Period	Percentage 3rd Period	VALUE OF BALE: Lint	VALUE OF BALE: Seed	VALUE OF BALE: Total	% Seed is of Total Value
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Acala College Increase	47.5	790	766	161	1717	46.0	44.6	9.4	$48.00	$9.68	$57.68	16.8
Roger's Acala 111	39.2	965	895	162	2022	47.7	44.3	8.0	48.00	10.67	58.67	18.2
Sunshine 83-3	44.8	1062	703	129	1894	56.1	37.1	6.8	44.98	11.57	56.55	20.5
Mebane 804-50	46.0	759	538	159	1456	52.1	37.0	10.9	45.60	10.72	56.32	19.0
Startex 619	49.7	974	707	101	1782	54.7	39.7	5.6	45.60	10.67	56.27	19.0
Qualla A-2	51.3	844	699	106	1649	51.2	42.4	6.4	46.80	9.78	56.58	17.3
Acala 8 (Cal. Yel. Label)	52.7	848	807	174	1829	46.4	44.1	9.5	48.00	10.25	58.25	17.6
Acala 8 (N-28-5)	62.9	939	660	66	1665	56.4	39.6	4.0	46.80	9.98	56.78	17.6
Bryant's Mebane	38.6	755	479	87	1321	57.2	36.3	6.5	45.60	9.28	54.88	16.9
Wacona	35.5	922	637	144	1703	54.1	37.4	8.5	45.98	9.17	55.15	16.6
Acala 8 (Shafter '34)	49.8	840	748	154	1742	48.2	42.9	8.9	48.00	10.29	58.29	17.7
Western Mebane 140	57.8	811	802	289	1902	42.6	42.2	15.2	44.98	10.17	55.15	18.4
Qualla X-2 (Regular)	43.5	797	471	52	1320	60.4	35.7	3.9	45.60	9.09	54.69	16.6
Lyon's Acala 8	46.5	828	727	134	1689	49.0	43.0	8.0	48.00	10.12	58.12	17.4
Acala 8 (Poso Found.)	53.9	847	653	131	1631	51.9	40.0	8.1	46.80	10.34	57.14	18.1
Acala 8 (Okla.Yel.Lab.Inc.)	51.4	897	696	129	1722	52.1	40.4	7.5	46.80	9.81	56.61	17.3
Harper's Family B L	48.0	789	668	91	1548	51.0	43.2	5.8	48.00	10.57	58.57	18.0
Western Mebane 141	41.3	749	700	228	1677	44.7	41.7	13.6	44.98	10.72	55.70	19.2
Acala 8-116	53.0	820	704	147	1671	49.1	42.1	8.8	46.80	10.38	57.18	18.2
Lankart	33.3	776	413	70	1259	61.6	32.8	5.6	45.60	8.71	54.31	16.0
Cliett's Superior	54.3	804	397	100	1301	61.8	30.5	7.7	44.98	8.94	53.92	16.6
Acala 8 (Okla.B.Lab.Inc.)	47.5	810	666	106	1582	51.2	42.1	6.7	46.80	9.86	56.66	17.4
Acala 8 (Okla.Found.Inc.)	42.8	753	646	178	1577	47.7	41.0	11.3	46.80	10.34	57.14	18.1
Harper's Family U	35.7	558	479	153	1190	46.9	40.2	12.9	45.98	9.40	55.38	17.0
Acala 8 (Shafter '34 Inc.)	43.7	718	686	191	1595	45.0	43.0	12.0	48.00	10.52	58.52	18.0

Table No. 4

Averages of Various Characters and Calculations for (1) All 55 Varieties, (2) First 14 Varieties from Standpoint of Acre Lint Yield, and (3) Last 41 Varieties from Standpoint of Acre Lint Yield (15 to 55, Table No. 1)

Character or Calculation	All 55 Varieties	First 14 Varieties in Lint Yield (1-14, Table 1)	Last 41 Varieties in Lint Yield (15-55, Table 1)	Discussion Pg	Source Table	Source Column
Acre Yield (Pounds)						
Lint	274	323	257	3	1	1
Seed	516	595	489	3	1	2
Seed Cotton	799	918	758	4	1	3
Staple Lengths (in 32nds)	30.9	30.1	31.2	4	1	4
Value per Acre						
Gross						
Lint	$27.01	$30.50	$25.82	5	1	5
Seed	$ 5.94	$ 6.84	$ 5.63	5	1	6
Total	$32.95	$37.35	$31.45	5	1	7
Less Ginning and Pulling	$24.44	$27.90	$23.25	5	1	8
Less Ginning and Picking	$24.96	$28.17	$23.86	5	1	9
Boll Size						
Av. Grams each	5.99	5.51	6.15	6	2	1
Bolls per Bale	104,043	113,464	100,827	6	2	3
Lint %						
Pulled Cotton	26.4	26.6	26.3	7	2	4
Picked Cotton	35.5	35.3	35.6	7	2	5
% Burs, Pulled Cotton	25.7	24.7	26.0	7	2	6
Lbs. Burs per Bale	469	447	477	7	2	7
Cost of Harvesting and Ginning Bale When:						
Pulled	$14.14	$14.05	$14.17	8	2	8
Picked	$13.55	$13.65	$13.52	8	2	9
Return for $1 Spent on Harvesting and Ginning When:						
Pulled	$3.97	$3.96	$3.97	8	2	10
Picked	$4.13	$4.07	$4.16	8	2	11
Ratio of Returns, Picked ÷ Pulled	1.043	1.029	1.048	9	2	12
Maturity % of Crop Harvested, 1st Picking	52.4	61.5	49.3	9	3	1
Number of Blooms on 100 Plants by 10-Day Periods						
1st Period	947	1154	877	9	3	2

Table No. 4 Continued

Continuation of Averages

Character or Calculation	All 55 Varieties	First 14 Varieties in Lint Yield (1-14, Table 1)	Last 41 Varieties in Lint Yield (15-55, Table 1)	Discussion Pg	Source Table	Source Column
Second Period	656	716	635	9	3	3
Third Period	119	94	127	9	3	4
Total	1722	1964	1639	9	3	5
% Blooms by Periods						
First Period %	55.2	59.3	53.8	11	3	6
Second Period %	37.9	36.1	38.5	11	3	7
Third Period %	6.9	4.7	7.7	11	3	8
Value of Bale						
Lint	$45.87	$45.31	$46.07	11	3	9
Seed	$10.06	$10.18	$10.03	11	3	10
Total	$55.94	$55.49	$56.10	11	3	11
% Seed is of Total Value	18.0	18.3	17.9	12	3	12

SOURCES OF SEED

Acala 892	University of Arkansas, Cotton Branch Station Marianna, Arkansas
Acala 1114	University of Arkansas, Cotton Branch Station
Acala 5 (Jones)	Jones Certified Seed Assn., Jones, Okla.
Acala 5 (Nucala)	U.S. Cotton Field Station, Greenville, Texas
Acala 8 (Calif. Blue Label)	Calif. Planting Cotton Seed Distributors, Bakersfield, Calif.
Acala 8 (Calif. Yellow Label)	Calif. Planting Cotton Seed Distributors
Acala 8 (Poso Foundation)	Calif. Planting Cotton Seed Distributors
Acala 8 (Shafter '34)	Calif. Planting Cotton Seed Distributors
Acala 8 (Shafter '34 Incr.)	Southwestern Cotton Substation, Tipton, Okla.
Acala 8 (Okla. Blue Label Incr.)	Southwestern Cotton Substation, Tipton, Okla.
Acala 8 (Okla. Foundation Incr.)	Southwestern Cotton Substation, Tipton, Okla.
Acala 8 (Okla. Yel.Label Incr.)	Southwestern Cotton Substation, Tipton, Okla.
Acala 8 (College Incr.)	Southwestern Cotton Substation, Tipton, Okla.
Acala 8 (N-28-5)	U.S. Cotton Field Station, State College, N.M.
Acala 8-116 (Increase)	Southwestern Cotton Substation, Tipton, Okla.
Acala 8 (Lyon)	Lyon Seed Farms, Geary, Oklahoma
Acala 111 (Rogers')	John D. Rogers, Navasota, Texas
Ambassador (Stoneville 4-B)	Stoneville Pedigreed Seed Co., Stoneville, Mississippi
Bagley's Mebane	Bagley & Son, Martindale, Texas
Bryant's Mebane	Jno. J. Bryant, Corsicana, Texas
Caddo	Lankart Bred Seed Farms, Waco, Texas
Cliett's Superior	Cliett Cotton Breeding Farms, San Marcos, Texas
Deltapine A	Delta & Pine Land Co., Scott, Mississippi
Deltapine 12	Delta & Pine Land Co., Scott, Mississippi
Ferguson 406	Ferguson Seed Farms, Howe, Texas
Half & Half X Lone Star	Texas Agr. Exp. Sta., Nacogdoches, Texas
Harper's Family BL	Robert M. Harper, Martindale, Texas
Harper's Family U (Reg.)	Robert M. Harper, Martindale, Texas
Hi-Bred	B. F. Summerour Seed Co., Norcross, Ga.
Kasch	Ed Kasch Cotton Breeding Co., San Marcos, Texas
Lankart #94	Lankart Bred Seed Farms, Waco, Texas
Lone Star (Gorham)	Jno. Gorham & Son, Waco, Texas
Mebane (Original Triumph)	A. D. Mebane Estate, Lockhart, Texas
Mebane 804-50	Texas Agr. Exp. Sta. Beeville, Texas
New Boykin	Ferguson Seed Farms, Howe, Texas
Northern Star 101	Lankart Bred Seed Farms, Waco, Texas.
Nucala (See Acala 5 strains)	
Oklahoma Triumph 5	Okla. Agr. Exp. Station, Stillwater, Okla.
Oklahoma Triumph 8	Okla. Agr. Exp. Station, Stillwater, Okla.
Oklahoma Triumph 32	Okla. Agr. Exp. Station, Stillwater, Okla.

SOURCES OF SEED (Continued)

Paymaster	Lockview Farms, Plainview, Texas
Qualla A-2	H. Conrads, San Marcos, Texas
Qualla X-2 (Regular)	H. Conrads, San Marcos, Texas
Roldo Rowden	Robert L. Dortch, Scott, Arkansas
Rowden 2088	University of Arkansas, Cotton Branch Station Marianna, Arkansas
Rowden 5056	University of Arkansas, Cotton Branch Station
Startex 619	Texas Agr. Exp. Sta., College Station, Texas
Stoneville 5A	Stoneville Pedigreed Seed Co., Stoneville, Mississippi
Stoneville 2B	Stoneville Pedigreed Seed Co., Stoneville, Mississippi
Sunshine 74-2	Texas Agr. Exp. Sta., Denton, Texas
Sunshine 83-3	Texas Agr. Exp. Sta., Denton, Texas
Wacona #48	Lankart Bred Seed Farms, Waco, Texas
Washington (Delfos 719)	Stoneville Pedigreed Seed Co., Stoneville, Mississippi
Watson	Ferris Watson & Sons, Garland, Texas
Western Mebane 140	Texas Agr. Exp. Sta., Chillicothe, Texas
Western Mebane 141	Texas Agr. Exp. Sta., Chillicothe, Texas